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10/550,974	09/26/2005	Andreas Kornbichler	S1-013P03225	1698
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EXAMINER				
BARKER, MATTHEWM				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,974

Applicant(s)

KORNBICHLER ET AL.

Examiner

MATTHEW M. BARKER

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13, 14 and 16-33 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 13, 14, 16-33 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 26 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: OSZ of Figures 7 and 8. It appears that the specification refers to oscillator OSZ as oscillator HFO (page 14, line 21).
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the filter of claims 13 and 23 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. Replacement Figures 1-4 were received on 9/08/2008. These drawings are acceptable.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 13, 14, and 16-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
6. Independent claims 13 and 23 require that the average power of the receiving oscillator be measured. According to page 13, lines 12-14 of the specification, "the strength of the reflection at the moment of switching on is represented as the average on period of the oscillator, that is to say, the average oscillator power." The claims fail to comply with the enablement requirement because it is not clear over what period of time the claimed "average power" is measured, nor is it clear how an *average power or average on period* can be representative of the strength of a reflection at a *momentary point* in time i.e. the "moment of switching". While not claimed, it is noted that an "on

period" is a measure of time and there is no apparent disclosure of a means to enable such a measurement to take place or even a discussion on using the on-period in a power calculation. It is recognized that method claim 32 simply requires a measurement of the output power, not an average. It is apparent that a momentary power measurement would be representative of the strength of a reflection at the moment of switching, as appears to be indicated by claim 32, and all claims have been examined as such.

7. Regarding independent claims 13, 23, and 32, while the placement of the filter is not shown, it is not clear how $s_m(t)$ is simply representative of the power of the oscillator. It is apparent to one of ordinary skill in the art that $s_m(t)$ is a measure of the sum or difference of the reflected signal and the oscillator signal (page 15, lines 9-16). For examination, reference is drawn to equivalent circuitry in the prior art, however clarification or correction is required.

Claims 14, 16-22, 24-31, and 33 depend on one of 13, 23, and 32 and are therefore also rejected as failing to comply with the enablement requirement.

Claim Rejections - 35 USC § 102&103

8. Claims 13, 14, 18, 20, 23-26, 29, and 32-33 are rejected under 35 U.S.C. 102(b) as anticipated by Kai or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kai in view of admitted prior art in the present specification.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Regarding claims 13, 20, 23-26, and 32-33, Kai discloses a pulsed distance measurement radar method and transceiver assembly (Figure 1) including a transmitter, receiver, receiver oscillator (2), and mixer/detector (9). Kai includes a filter (10) and the detector is configured to measure the power of the receiving oscillator (column 6, lines 26-37). Kai does not explicitly disclose that the transient response of the receiving oscillator is influenced by the reception signal, however it is apparent that such an influence is inherent, as it is well known in the art that radar receivers experience coupling between the antenna and oscillator, which influences the transient response of the oscillator. However, even if not inherent, the coupling phenomenon is acknowledged as "practically unavoidable" by the specification on page 12, line 26-page 13, line 7. It would have been obvious to one of ordinary skill in the art that the transient response of the receiver oscillator of Kai would likely be influenced by the received signal, especially in the absence of an isolator to separate the oscillator and antenna.

Regarding claim 14, the claim merely describes effects of the coupling discussed above. It is obvious that the average power and build-up time of the oscillator of Kai would be influenced as discussed above and acknowledged in the present specification.

Regarding claim 18, Kai discloses that the receiving oscillator is also a transmitting oscillator (See Figure 1).

Regarding claim 29, Kai discloses the assembly in combination with a motor vehicle (column 1, lines 5-8).

12. Claims 16, 17, 19, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai as applied to claim 13 above in view of admitted prior art of the present specification.

Regarding claims 16 and 17, Kai does not disclose switching the oscillator on and off. Admitted prior art Figure 4 discloses switching the oscillator on and off (Po-Rx) periodically following a clock rate (CLK-Rx). It would have been obvious to modify Kai to switch the oscillator on and off periodically following a clock rate as taught by the admitted prior art in order to save power (see page 4, line 24- page 5, line 9 of background section of the present specification).

Regarding claim 19, Kai does not disclose a separate transmitting oscillator for generating the transmission signal. Figure 4 discloses separate oscillators. It would have been obvious to one of ordinary skill in the art to modify Kai to include separate oscillators in order to achieve the well known advantage of ensuring isolation between separate transmit and receive frequency spectra.

Regarding claims 30 and 31, Kai discloses the assembly in combination with a motor vehicle. The admitted prior art in the present specification discloses such systems may be utilized in combination with motor vehicles, buildings, and industrial plants (page 1, lines 11-17). It would have been obvious to one of ordinary skill in the art to use the radar assemblies of Kai in any setting that requires the detection of a target in order to achieve conventional advantages in the art with no new or unexpected results.

13. Claims 21, 22, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai or Kai in view of the admitted prior art of the present specification as applied to claims 13 or 23 above, and further in view of Stikvoort et al. (6,192,229).

Kai does not disclose the details of the mixers, and therefore do not disclose the claimed diode configurations of the claims. Stikvoort discloses a diode mixer circuit including the claimed polarities and measurement signal formations (See Figure 1 and Abstract). It would have been obvious to modify the mixer of Kai or Figure 4 as suggested by Stikvoort in order to ensure low noise and low distortion (column 2, lines 15-29)

Response to Arguments

14. Applicant's arguments filed 9/08/2008 have been fully considered but they are not persuasive. ON page 9 of the Remarks, Applicant correctly notes that the Examiner had previously indicated that Kai does not disclose measuring the power of the oscillator. However, upon further review of Applicant's specification, it is apparent that

Kai does in fact disclose measuring the "average power of the receiving oscillator" as the measurement is referred to the present invention. Specifically, it is now apparent that the measurement of the "power of the receiving oscillator" is in fact the measurement signal $s_m(t)$, formed, for example by mixing the reception and oscillator signals in the claimed (claims 20-21) and advantageous embodiment (page 15, lines 4-23) of the present invention. Previously, it was presumed that a separate measurement of solely the receiving oscillator power took place. This action is made non-final in light of the new interpretation.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW M. BARKER whose telephone number is (571)272-3103. The examiner can normally be reached on M-F, 8:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. M. B./
Examiner, Art Unit 3662

/Thomas H. Tarcza/
Supervisory Patent Examiner, Art Unit 3662